

Understanding, Evaluating and Mitigating Congestion & Basis Risk

August 25 - 26, 2020 | Digital Access

Tuesday, August 25, 2020

All times are Pacific Time

8:30 – 8:40 *Introduction and opening remarks*

8:40 – 9:30 **Session 1: Locational Marginal Prices and Basis Risk**

In this opening session, the instructors will discuss the fundamentals of LMP markets, transmission congestion and LMP basis risk. Learn the essential concepts for understanding LMP basis and curtailment risk.

- LMP Markets
- Transmission Studies
- LMP Components
- Security Constrained Economic Dispatch
- Congestion Risks: Basis & Curtailment

Robert (Rob) Cleveland, *Managing Director, Transmission Planning & Analysis*, LEIDOS

9:30 – 9:50 *Live Q&A*

9:50 – 10:00 *Break*

10:00 – 10:55 **Session 2: LMP Calculation and Marginal Losses**

This session will use simple examples to teach the math behind how LMPs are calculated in nodal markets. The impact of marginal losses on LMP basis will also be discussed to inform market participants on how to avoid related risk. This session will review:

- Basic Concepts: Energy Bids, Shift Factors, and Shadow Prices
- Simple LMP Calculation Example
- Understanding Marginal Losses

Robert (Rob) Cleveland, *Managing Director, Transmission Planning & Analysis*, LEIDOS

10:55 – 11:15 *Live Q&A*

11:15 – 11:45 *Meal Break*

11:45 – 12:35 **Session 3: Reviewing and Understanding Specific Real-Life Congestion Examples**

In this session, instructors will review real-life congestion examples to illustrate various drivers of congestion, related LMP basis and curtailment risk, and assessing future congestion risk.

- Basis risk from systemic regional congestion
- Basis and curtailment risk from local congestion
- Assessing impacts of future generation and transmission

Rick Hunt, *Senior Energy Markets Consultant*, LEIDOS

12:35 – 12:55 *Live Q&A*

12:55 – 1:05 *Break*

1:05 – 2:05 **Session 4: Addressing Basis and Curtailment Risk across the Project Life-Cycle**

This session will illustrate how basis risk is incorporated into each project phase in order to help stakeholders mitigate the impacts of unexpected basis risk and/or unanticipated energy curtailments on project economics. Review each phase of the life cycle including:

- Siting
- Interconnection
- Offtake
- Financing
- Operation

Robert (Rob) Cleveland, *Managing Director, Transmission Planning & Analysis*, LEIDOS

2:05 – 2:25 *Live Q&A/Day 1 Wrap Up*

2:25 *End of Day 1*

Day 2: Wednesday, August 26, 2020

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9:00 – 9:45 **Session 5: Assessing LMP Basis Mitigation Options**

Selecting the right mitigation strategy can significantly reduce LMP abasis risk and ultimately, project future project revenues. This session will help participants evaluate:

- Protections in PPA/Offtake Agreements
- Adjusting Project Design
- Bidding Strategy
- Remedial Action Schemes and Special Protection Schemes
- Financial Transmission Rights
- Transmission Line Upgrades

Rick Hunt, *Senior Energy Markets Consultant*, LEIDOS

9:45 – 10:05 *Live Q&A*

10:05 – 10:15 *Break*

10:15 – 11:15 **Session 6: Congestion Studies**

Our closeout session will explain how to understand and utilize congestion studies during project development and recap the class takeaways. Review:

- Early stage congestion and basis risk study
- Comprehensive due diligence study

Robert (Rob) Cleveland, *Managing Director, Transmission Planning & Analysis*, LEIDOS

11:15 – 11:35 *Live Q&A*

11:35 – 12:05 *Meal Break*

12:05 – 1:05 **Session 7: Course Recap and Regional Expert Roundtable**

In this session the instructors will review the course topics and hold a roundtable discussion and Q/A session. Two additional regional experts will join the conversation to highlight market-specific congestion and LMP basis concerns across all of the US nodal markets.

Dhruv Acharya, *Senior Energy Market Consultant*, LEIDOS

Robert (Rob) Cleveland, *Managing Director, Transmission Planning & Analysis*, LEIDOS

Rick Hunt, *Senior Energy Markets Consultant*, LEIDOS

Gary Moland, *Vice President Transmission Planning & Analysis*, LEIDOS

1:05 – 1:25 *Live Q&A*

1:25 *End of Master Class*